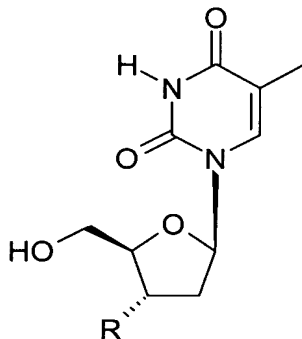


Applicant(s) : Anders OEHRVIK and Staffan ERIKSSON
U.S. Serial No. : Not Yet Known
Filed : January 26, 2005
Page : 3

In The Claims:

Please amend claims 3-4, 6-16, and 18-19 without prejudice to the Applicants' rights to pursue the amended subject matters in a future application.

1. (Original) A method for determining thymidine kinase 1 activity in a human or animal body fluid or cell or tissue sample, comprising the steps of reacting said sample with a substrate for said thymidine kinase 1 which substrate is a 3'-derivative of thymidine in the presence of a phosphate donor and a buffer system and determining the amount of 5'-phosphorylated 3'-derivative of thymidine formed, said amount being related to said thymidine kinase 1 activity.
2. (Original) A method according to claim 1, wherein a substrate for TK1 is a 3'-deoxy-thymidine derivative of formula I



in which R is selected from but not limited to the group consisting of NH₂, NHCOCH₃, SC₂H₅, OC₂H₅, OBn, N₃, NO₂, OCOCH₃, OSO₂CH₃ and F.

3. (Currently Amended) A method according to ~~claims 1 and 2~~ claim 1, wherein the 3'-derivative of thymidine is

Applicant(s) : Anders OEHRVIK and Staffan ERIKSSON
U.S. Serial No. : Not Yet Known
Filed : January 26, 2005
Page : 4

AZT and the 5'-phosphorylated 3'-derivative of thymidine is AZTMP.

4. (Currently Amended) A method according to ~~claims 1 to 3~~ claim 1, wherein the amount of said 5'-phosphorylated 3'-derivative of thymidine formed is determined by an immunological method comprising reacting the 5'-phosphorylated 3'-derivative of thymidine formed with at least one antibody capable of selectively reacting with the 5'-phosphorylated 3'-derivative of thymidine to form immunocomplexes.
5. (Original) A method according to claim 4, wherein the amount of 5'-phosphorylated 3'-derivative of thymidine is determined by an immunological method using chemiluminescence.
6. (Currently Amended) A method according to ~~claims 4 and 5~~ claim 4, wherein the amount of said 5'-phosphorylated 3'-derivative of thymidine formed is determined by enzyme linked immunosorbent assay (ELISA).
7. (Currently Amended) A method according to ~~claims 1 to 6~~ claim 1, wherein said buffer comprises at least Dithioerythritol (DTE), ATP, MgCl₂ and HEPES or Tris and provides a pH from 6.5 to 8.0.
8. (Currently Amended) A method according to ~~claims 1 to 6~~ claim 1, wherein Uridine monophosphate (UMP) is contained in said buffer.
9. (Currently Amended) A method according to ~~claims 1 to 6~~ claim 1, wherein said substrate is present in a concentration of at least 0,4 µM.

Applicant(s) : Anders OEHRVIK and Staffan ERIKSSON
U.S. Serial No. : Not Yet Known
Filed : January 26, 2005
Page : 5

10. (Currently Amended) A method according to ~~claims 1 to 6~~
claim 1, wherein said phosphate donor is present in a
concentration of 0,1-10 mM.
11. (Currently Amended) ~~Use of a method according to one of
the forgoing claims for the diagnosis of~~ A method of
diagnosing and monitoring conditions ~~diseases~~ involving
elevated levels of thymidine kinase 1 activity,
comprising the steps of reacting human or animal body
fluid or cell or tissue sample with a substrate for
said thymidine kinase 1 in which the substrate is a 3'-
derivative of thymidine in the presence of a phosphate
donor and a buffer system and determining the amount of
5'-phosphorylated 3'-derivative of thymidine formed,
said amount being related to said thymidine kinase 1
activity.
12. (Currently Amended) ~~Use according to claim 11 for
diagnosing~~ The method according to claim 11, wherein
the condition is cancer or tumours and for monitoring
the progression of cancer or tumours.
13. (Currently Amended) ~~Use~~ The method according to claim
12, wherein the cancer is ~~selected from the group
consisting of~~ haematological cancer, breast cancer,
gastrointestinal cancer, or ~~and~~ prostate cancer.
14. (Currently Amended) ~~Use~~ The method according to claim
11, wherein the condition is a ~~for the identification
of a subgroup of patients at~~ high risk of disease
progression in Non-Hodgkin's lymphoma ~~and~~ or chronic
lymphocytic leukaemia.
15. (Currently Amended) An in vitro method for diagnosing
~~and/or~~ therapeutic monitoring of diseases in a human or

Applicant(s) : Anders OEHRVIK and Staffan ERIKSSON
U.S. Serial No. : Not Yet Known
Filed : January 26, 2005
Page : 6

animal ~~characterised~~ characterized by ~~in—having~~
elevated levels of thymidine kinase 1 activity,
comprising the steps of a) obtaining a sample of human
or animal body fluid or a cell or tissue sample; b)
assaying the sample to determine the thymidine kinase 1
activity according to a the method of ~~claims 1 to 10~~
claim 1; and c) relating the amount of thymidine kinase
1 activity to the clinical status of the human or
animal.

16. (Currently Amended) A kit for the in vitro diagnosis
~~and/or~~ therapeutic monitoring of diseases in a human or
animal ~~characterised~~ characterized by ~~in—having~~
elevated levels of thymidine kinase 1 activity,
comprising a) a 3'-derivative of thymidine; b) a
phosphate donor; c) a buffer; and d) at least one
antibody capable of selectively reacting with the 5'-
phopshorylated 3'-derivative of thymidine.
17. (Original) A kit according to claim 16, wherein the 3'-
derivative of thymidine is AZT and wherein the 5'-
phopshorylated 3'-derivative of thymidine is AZTMP.
18. (Currently Amended) A kit according to ~~claims 16 and 17~~
claim 16, further ~~additionally~~ comprising UMP.
19. (Currently Amended) A kit according to claim 16 ~~to 18~~,
wherein the reagents are packed together in a
container.
20. (New) A kit according to claim 17, further comprising
UMP.